

Notice of Allowability

Application No.

10/791,952

Examiner

Patricia L. Hailey

Applicant(s)

Art Unit

1755

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to an amendment filed on November 8, 2004.
2. ☒ The allowed claim(s) is/are 1-9.
3. ☐ The drawings filed on _____ are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

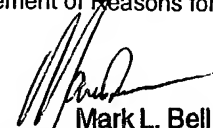
* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date October 4, 2004
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413), Paper No./Mail Date 12/08/04
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____


Mark L. Bell
Supervisory Patent Examiner
Technology Center 1700

Applicants' remarks and amendments, filed on November 8, 2004, have been carefully considered. No claims have been canceled or added; claims 1-9 remain pending in this application.

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Applicants' Priority Document was filed on March 3, 2004.

Withdrawn Rejections

The 112(2) rejection of claims 7-9 stated in the previous Office Action has been withdrawn in view of Applicants' amendments to claims 7-9 and in view of the Examiner's Amendments made in this Office Action.

EXAMINER'S AMENDMENT

2. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Gerald Shekleton on December 7, 2004.

The application has been amended as follows:

- a. On page 4 of the Specification, at line 8, please delete "0.65" and insert therefor -0.7--.
- b. In line 2 of claim 9, please delete the word "using" and insert therefor the word -contacting--.
- c. In line 2 of claim 9, after the phrase "as defined in", please insert the phrase -any one of--.
- d. In line 3 of claim 9, after "6,", please insert -ethylene,--.
- e. In line 5 of claim 9, please delete ".07" and insert therefor -0.7--.

Support for the amendment to the Specification is found in claim 9 as originally filed. The remaining amendments to claim 9 are to recite proper claim language (amendment "b"), to eliminate improper multiple claim language (amendment "c"), to provide proper antecedent basis (amendment "d"), and to correct a typographical error (amendment "e").

Allowable Subject Matter

3. Claims 1-9 allowed.

Reasons for Allowance

4. The following is an examiner's statement of reasons for allowance:

While the prior art teaches catalyst comprising compounds of copper and magnesium supported on alumina, the prior art does not teach or suggest Applicants' claim limitations regarding the Mg/Cu ratio (0.05 to 1), and especially Applicants' claim limitations regarding the distribution of copper in the catalyst such that the ratio between (1) the concentration of copper atoms at the surface layer of the catalyst (X; Al/Cu ratio at the surface) and (2) the concentration of copper atoms in the entire catalyst (Y; Al/Cu ratio in the entire particle) is from 0.8 to 1.3 (i.e., X/Y is from 0.8 to 1.3).

The prior art also does not teach or suggest Applicants' claimed method of preparing the above catalysts, wherein the alumina is impregnated in a first step using volumes of aqueous solution of Cu and Mg compounds equal to, or lower than, the volume of the pores of the alumina, followed by steps using volumes of said aqueous solution that gradually decrease with respect to the volume used in the first step.

Cavalli et al. (U. S. Patent No. 6,759,365) teach oxychlorination catalysts similar to that instantly claimed, but Patentees' catalyst has a different range for X/Y for an Mg/Cu atomic ratio of 2 (greater than 1.2 and reaching 2.7; see col. 4, lines 33-37). Further, Patentees' catalyst exhibits a distribution of copper atoms more inside the particle of the catalyst than at the surface layer. See col. 3, lines 33-46 of Cavalli et al.

Canavesi et al. (U. S. Patent No. 5,070,062) teach an oxychlorination catalyst comprising alumina impregnated with cupric chloride and with the chloride of an alkali or alkaline earth metal, in which the copper and alkali or alkaline earth metal **are uniformly distributed over the entire surface area of the particles.** The catalyst is prepared by impregnating a thermally treated alumina using a volume of an aqueous solution of cupric chloride and alkali or alkaline earth metal chloride of from 0.7 to 0.9 times the total pore volume of the particles. Additionally, the catalyst contains quantities of cupric chloride of the order of 4-5% by weight (col. 2, lines 33-38). See col. 1, line 60 to col. 2, line 60 of Canavesi et al.

Cavaterra et al. (U. S. Patent Nos. 4,587,230 and 4,871,707) were cited in Applicants' disclosure.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

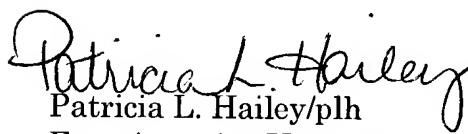
Conclusion

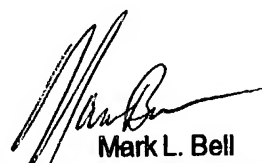
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patricia L. Hailey whose telephone number is (571) 272-1369. The examiner can normally be reached on Mondays-Thursdays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark L. Bell can be reached on (571) 272-1362. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group 1700 Receptionist, whose telephone number is (571) 272-1700.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Patricia L. Hailey/plh
Examiner, Art Unit 1755
December 8, 2004


Mark L. Bell
Supervisory Patent Examiner
Technology Center 1700